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Charles A. Howland

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100 MAIN STREET
P O BOX 3445
NASHUA, NH 03061-3445

EXAMINER

PIERCE, JEREMY R

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 01/23/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-10

Office Action Summary

Application No.

09/943,749

Applicant(s)

HOWLAND, CHARLES A.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8,17-22,28,29,35-38 and 74-78 is/are pending in the application.
- 4a) Of the above claim(s) 74-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8,17-22,28,29 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Amendment B has been filed on December 18, 2002 as Paper No. 8. The amendment amends claims 1, 17, and 38. Claims 30-34, 39, 44-47, 57, 62, and 67-73 have been cancelled. New claims 74-78 have been added. Claims 1, 8, 17-22, 28, 29, 35-38, and 74-78 are currently pending.
2. The Statement under 37 CFR 1.132 filed January 10, 2003 as Paper No. 9 is insufficient to overcome the rejection of claims 1, 8, 17-22, 28, 29, and 35-38 based upon the Opitz (EP 962,562) and Fels et al. (U.S. Patent No. 5,514,457) as set forth in the last Office action because the Statement is not commensurate in scope with the claims. Applicant describes the invention as a high cover fabric with increased weave density, but these limitations are not in the claims. Applicant states Fels et al. will not survive Applicant's "high weaving frictions", but no mention of a weave pattern is disclosed in the claims. Applicant states Fels et al. and Opitz are limited to a much different class of yarns having a greater weight range or denier, but no mention of denier limitations are made in the claims. Applicant argues that Fels et al. would not have a substantially parallel and uniform distribution. However, Applicant has failed to set forth definite structure of what "substantially parallel" means, as set forth below in the 112 rejections.

Election/Restrictions

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3. Applicant's election of Group I claims in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

4. Newly submitted claims 74-78 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: see Section 3 of the last Office Action.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 74-78 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

5. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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7. Claims 1, 8, 17-22, 28, 29, and 35-38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amended claims now recite the fiber bundles are formed of a "plurality of substantially parallel laid fibers." The Applicant says that this limitation is described and illustrated in the specification. However, the Examiner cannot find any reference in the specification to "substantially parallel laid fibers," and the informal drawings do nothing to indicate that the fiber bundles are formed of a plurality of "substantially parallel laid fibers" fashion.

8. Claims 1, 8, 17-22, 28, 29, and 35-38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The application contains no description as to what fibers being laid in a "substantially parallel" fashion would look like. Nor is there a method given for making a fiber bundle of "substantially parallel laid fibers."

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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10. Claims 1, 8, 17-22, 28, 29, and 35-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

What does it mean for the fiber bundle to be formed of “substantially parallel laid fibers?” How parallel must the alignment of these fibers be in order to be “substantially” parallel? Do all fibers in the bundle lie parallel in one plane? Or are there several planes of substantially parallel fibers? Does twisting the fibers in the bundle, as described in dependent claim 22, alter their parallel status? Is “parallel” measured from a cross-section at a given point in the fiber?

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 8, 17-19, and 35-38 rejected under 35 U.S.C. 102(b) as being anticipated by Opitz (EP 962,562).

Opitz teaches a yarn for use in protective clothing where the core is high strength fiber and the sheath is high abrasion resistant dyeable fiber (Abstract). The core may be made from aramid fibers, polyamide fibers, or polyethylene (paragraph 15), and would have a strength of up to 27 cN/dtex (Table 1), which equals approximately 30.5 grams/denier. Opitz would inherently meet the new limitation of the fiber bundle being

formed of a plurality of substantially parallel laid fibers. While the core may be spun, in can also be made from multi-filament fiber (paragraph 38). There would inherently be a plurality of filaments that would be parallel to other filaments in some fashion in the fiber bundle of Opitz. With regard to claim 8, Opitz teaches using para-aramid fibers for the core (paragraph 15). With regard to claim 17, Opitz teaches the sheath part of the fiber to comprise polyamide, polyester, or cotton. With regard to claim 18, Opitz does not specifically mention the dye composition, but polyester dyes must be used if polyester makes up the sheath (paragraph 38). With regard to claim 19, Opitz discloses the sheath can be spun staple fibers (paragraph 39). With regard to claims 35-37, the yarn is woven into protective clothing (paragraph 1).

Claim Rejections - 35 USC § 102/103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1, 8, 17-19, and 35-38 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fels et al. (U.S. Patent No. 5,514,457).

Fels et al. disclose a fiber bundle comprising core fiber of high strength fiber, such as Twaron (column 3, lines 28-35) and dyeable sheath fiber made of cotton, polyester, polyamide, or polyacrylonitrile (column 3, lines 58-65). The high strength

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core is made from multiple filaments (column 3, lines 40-51). Fels et al. do not specifically teach that the high strength core fibers have a tensile breaking strength of at least 10 g/Denier. However, the Examiner notes that Fels et al. disclose core material that is known to possess the strength required by Applicant's limitation, and the scope of Fels et al. is in the art of protective clothing, which normally provides fibers with a breaking strength of at least 10 g/Denier. The Examiner asserts that the limitation of tensile breaking strength would be inherent to the material disclosed by Fels et al. If not, then it would have been obvious to a person of ordinary skill in the art to create the article of Fels et al. with core fibers having a tensile strength of at least 10 g/Denier in order to create a protective garment with sufficient strength for puncture resistance. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102. Fels et al. would inherently meet the new limitation of the fiber bundle being formed of a plurality of substantially parallel laid fibers. While the core may be spun, it can also be made from multi-filament fiber (column 3, lines 40-46). There would inherently be a plurality of filaments that would be parallel to other filaments in some fashion in the fiber bundle of Fels et al. With regard to claim 19, spun staple fibers can form the sheath (column 3, line 55).

Claim Rejections - 35 USC § 103

15. Claims 22, 28, and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz or Fels et al.

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With regard to claim 22, neither Opitz nor Fels et al. disclose a twist multiplier for the fiber bundles. If not already inherent to the fibers of Opitz or Fels et al., it would have been obvious to one having ordinary skill in the art to create the fiber bundles of Opitz or Fels et al. with a twist multiplier of at least 2.7 in order to create a sturdy fiber bundle with less chance of unraveling, since it has been held discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). With regard to claim 28, neither Opitz nor Fels et al. disclose the number of fibers present in the bundle. Fels et al. disclose that there are no limits on the filaments and yarn titers (column 3, line 47). The presence of 60 to 100 fibers in a fiber bundle would depend on the individual filament sizes and the desired thickness of the overall fiber bundle. It would have been obvious to a person having ordinary skill in the art to modify the fiber bundles of Opitz and Fels et al. to contain 60 to 100 fibers in order to optimize the fiber bundle to its desired thickness and desired individual filament size. With regard to claim 29, neither Opitz nor Fels et al. disclose dyeing the yarn so that the dyed fiber bundle is lighter in color than the undyed high strength yarns. However, it would have been obvious to a person having ordinary skill in the art to supply a dye that is lighter in color than the high strength core fibers as a matter of design choice.

16. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz or Fels et al. in view of Prickett (U.S. Patent No. 5,853,885).

Neither Opitz nor Fels et al. disclose using a Cotton System or a Worsted System. Prickett discloses using both the Cotton System (column 2, line 65) and the

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Worsted System (column 4, line 37) for spinning fibers in the manufacture of protective clothing. It would have been obvious to one having ordinary skill in the art to spin the fiber bundles of Opitz or Fels et al. using the Cotton System or the Worsted System as a matter of obvious choice in production method, since both Systems are held to be known and common in the art.

Response to Arguments

17. Applicant's arguments filed in Paper No. 8 have been fully considered but they are not persuasive.

18. Applicant asserts that neither Opitz nor Fels et al. disclose the new limitation of the fibers in the bundle comprising "substantially parallel laid fibers." However, Applicant fails to make clear what is meant by this new limitation in the specification, drawings, and the claims. Therefore, the Examiner must give this limitation the broadest possible meaning. Since both Opitz and Fels et al. teach multi-filament fibers, there would inherently be filaments that "substantially parallel" to one another in a given plane. The new limitation is not specific enough to render the scope of the claims outside the Opitz and Fels et al. references.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

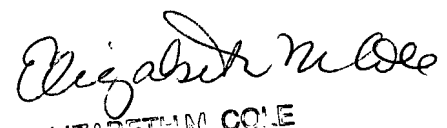
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-

0661.


Jeremy R. Pierce
Examiner
Art Unit 1771
January 16, 2003


ELIZABETH M. COLE
PRIMARY EXAMINER